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December 12, 2006

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Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Washington, DC 20554

Re: *Amendment of the Commission's Part 90 Rules
in the 904-909.75 and 919.75-928 MHz Bands, WT
Docket No. 06-49*

Ex Parte Presentation

Dear Ms. Dortch:

This is to advise that on December 12, 2006, Michael McMains, Janice Obuchowski, and Amy Mehlman, all representing Progeny LMS, LLC ("Progeny"), met with Barry Ohlson, senior legal advisor and legal advisor for spectrum and international issues to Commissioner Jonathan Adelstein, to provide background on and an overview of Progeny's position in the above-captioned proceeding.

In a handout, Progeny's representatives discussed the critical need for Multilateration-Location and Monitoring Service (M-LMS) flexibility and the public interest benefits in providing flexibility to M-LMS licensees. A copy of the handout is attached.

Participants addressed the need to eliminate unnecessary M-LMS rules to facilitate efficient spectrum use in this band and to facilitate enhanced position location applications and increased opportunities for spectrum sharing. Progeny representatives described a study the company has commissioned Purdue University to conduct regarding its proposed use of M-LMS spectrum for public safety applications.

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Marlene H. Dortch, Secretary
December 12, 2006
Page 2

In accordance with Section 1.1206(b) of the Commission's Rules, please accept the original and one copy of this filing and the attached handout for submission. Should you have any questions or concerns in connection with this submission, please contact me at (202) 371-2800.

Sincerely,

A handwritten signature in cursive script, reading "Janice Obuchowski".

Janice Obuchowski

Attachments



Critical Need For M-LMS Flexibility: Way Forward

WT Docket No. 06-49

Progeny LMS, LLC
December 12, 2006

Progeny Overview

Progeny has a commitment to M-LMS that is both **longstanding** and **forward-looking**. Eliminating unnecessary service rules would foster deployment in licensed portion of 902-928 MHz of:

- **Enhanced Position Location (EPL)** – In dense urban areas, where GPS does not always work, using EPL technology and spectrum as a complement and supplement.
 - *Public interest benefit:* Addresses location identification intent of M-LMS.
- **Public Safety** – Open access, on a priority basis, as needed.
 - *Public interest benefit:* Homeland security, redundant capabilities for business and critical infrastructure providers.
- **Broadband Data** – Access to WISPs using unlicensed spectrum at 900 MHz and complement other licensed systems, including in poor neighborhoods and rural areas.
 - *Public interest benefits:* Efficient effective spectrum use, sharing.

NPRM: New Chapter for M-LMS

Service restrictions have barred deployment of *any service* in the M-LMS band, while GPS and E911 requirements have *transformed* market for location-services:

- **1995**: FCC issues service rules for M-LMS spectrum, with vision of automatic vehicle monitoring.
- **1996**: Commission establishes first wireless E911 rules.
- **1999**: First auction for LMS licenses.
- **2000**: President Clinton turns off GPS feature of “selective availability” that intentionally degraded the accuracy of the system for nonmilitary use. This increases accuracy of civilian devices 10-fold.
- **2002**: Spectrum Policy Task Force issues recommendations, including for FCC to consider “policies that increase opportunities for access to the radio spectrum through granting additional flexibility.”
- **2006**: NPRM assesses M-LMS rule changes.

Flexibility Changes Sought by Progeny

To let all users in band maximize spectrum use, the FCC should:

- ✓ Eliminate restrictions on type and content of messages;
- ✓ Lift rule that allows M-LMS licensees to provide non-vehicular location services only if an LMS system's "primary operations" involve provision of vehicle location services;
- ✓ Remove restrictions on real-time PSTN interconnection;
- ✓ Abandon "spectrum cap" for M-LMS licenses;
- ✓ Delete unnecessary and unusable M-LMS field-testing condition.
- ✓ Preserve hierarchy among licensed and unlicensed users in band.

No significant interference risk: Progeny plans to utilize advances in power control, interference avoidance, spread spectrum techniques, mesh networking architectures, smart antennas.

Why New M-LMS Rules Needed

Existing Part 90 rules for M-LMS are:

- Based on command-and-control regulatory regime no longer pursued by Commission.
- Provide no incentives for Part 15 devices to use more efficient technologies.
- Not updated in 10 years, despite major shifts in technology, service requirements.
- Do not advance sharing.

Bottom Line: Cannot “balance” user needs between licensed and unlicensed in same band with rules so unnecessarily restrictive that licensed operations ***cannot exist***.

NPRM is reexamining technology-based changes that would:

- Enable the FCC to continue building on a foundation of 21st century spectrum policy.
- Promote sharing between licensed and unlicensed users.
- Enhance coordination between commercial and public safety users.
- Protect existing users from harmful interference.

Bottom Line: Regulatory flexibility will maintain original location identification vision for band, while balancing need for enhanced services, interference protection.

Flexibility for M-LMS: Long Overdue

Progeny has provided technical showing that compels *real-time* regulatory relief:

- An M-LMS system operating at 30 Watts effective radiated power would cause less interference to Part 15 devices than other Part 15 devices do.
- Low power Part 15 devices would *not* be overpowered by M-LMS systems permitted to operate with regulatory flexibility:
- The power level of Part 15 devices with digital modulation is 5,714 times greater than unlicensed devices without digital modulation:
 - *Both* co-exist in unlicensed 900 MHz spectrum without being “swamped” by higher power levels.
- No challenge to the technical basis of demonstrations that M-LMS licensees and Part 15 devices will be able to coexist and flourish.

Bottom Line: No reason to delay action on the changes contemplated in the NPRM that would facilitate flexible use of this spectrum.

Why Flexibility Opponents Are Wrong

- **Contentions that Progeny has not given technical or service information that would allow the Commission to craft intelligent rules are specious.**
 - Part 15 Coalition cites a standard for the provision of details about deployment (i.e., numbers, density of units) that does not exist.
 - Typically, spectrum flexibility based on technical information and demonstration that technology-based solutions will mitigate interference.
- **Arguments that Progeny has not been specific about services it will provide are inaccurate:**
 - EPL;
 - Broadband data, including rural areas;
 - Complementary licensed capacity;
 - Open access on a priority basis to public safety systems.

Need for Efficient, Effective Spectrum Use

Unnecessary M-LMS rules must be eliminated to promote efficient spectrum use for all operations in this band.

- Part 15 Coalition contends 902-928 MHz “is among the most densely used bands anywhere.”
- But a large number of systems using legacy technology at low power *do not* equate to efficient use.
- Progeny’s own testing of actual spectrum use in this band in the Washington, D.C. area tells a different story.
 - **Residential:** For many sites, spectrum not heavily used, or in use by an AMR system in part of band at which M-LMS generally may not operate.
 - **Commercial:** Range of spectral activity, but results analyzed did not indicate M-LMS systems would contribute more than incremental noise.

Without rules that facilitate, rather than impede, FCC goals for sharing, M-LMS spectrum use is sub-optimized.

Interference Concerns Misplaced

Concerns about potential increased interference from M-LMS devices under a more flexible regulatory regime are misplaced due to:

- Demonstration by Progeny that it will not pose any more interference risk to Part 15 devices than Part 15 devices already pose to each other in the band;
- Advanced technology that Progeny plans to use to deploy broadband, public safety applications in the public interest;
- Extent to which Part 15 and other devices are already operating successfully in an environment that involves a complex mixture of both high and low powered devices.

Example: Itron's AMR devices operate outdoors and transmit data to meter readers or nearby base stations at 915 \pm 3 MHz.

- Operate well outside the licensed M-LMS band;

Congestion at 902-928 MHz Provides Opportunities, Challenges

Reasonable, technology-based changes for M-LMS rules will enable success stories of Part 15 and other uses to not only continue, but to flourish. Multiple users already co-exist in band despite numerous applications.

- Government users in band are operating at power levels at 500 watts or higher.
- Amateur radio operates on secondary basis at 1,500 watts.
- Sprint Nextel operates a Direct Talk service at 900 MHz that provides off-network communication when other networks not available and is a backup source of public safety communication.
- Motorola's Canopy system relies on 900 MHz to provide links of more than 40 miles, under line-of-sight conditions.

Need to Avoid 'Selective' Flexibility

- Critical to guard against “selective” flexibility regime that grants increased access, on more flexible terms, to unlicensed devices, while failing to allow technology-based sharing solutions in licensed bands such as M-LMS.
- Flexibility proceedings – based on technologically sound interference mitigation measures – are increasing spectrum access for low power and unlicensed devices.
 - ✓ 5 GHz Order: Provides unlicensed devices “more flexibility to avoid interference with other services sharing the existing U-NII bands, thereby improving the quality of service experienced by consumers.”
 - ✓ 'White spaces' Order: Fixed, low power devices allowed to operate on TV channels in areas where frequencies not used for TV or other incumbent licensees “if such devices comply with appropriate protective measures for ensuring that they do not cause interference to already authorized services.”

Sharing Opportunities for Multiple Users

- Ability of M-LMS licensed users to deploy applications with public interest benefits *need not come at expense* of Part 15 operations and other users.
- Contentions that current rules strike an appropriate balance between Part 15 and M-LMS are misleading.
- No “balancing” of interests given that current rules are so restrictive as to stymie all M-LMS deployment.
- The FCC consistently interprets Section 303(y) of the Communications Act to justify flexibility decisions that:
 - “Would accommodate a wide variety of potential Fixed and Mobile service uses; would encourage research and investment to invent, market, and develop new technologies; and would foster efficient use of spectrum,” when interference issues can be resolved by “general non-interference standards and technical rules.”

Need to Preserve 902-928 MHz Hierarchy

NPRM tentatively concluded there was need to preserve existing hierarchy in band between licensed (federal and non-federal), unlicensed and amateur uses.

- Progeny continues to believe that flexibility changes for M-LMS can preserve and advance this hierarchy, while avoiding granting incumbents “first-in” user rights.

Conclusion

Progeny is laying ground work now to put M-LMS spectrum to its fullest and best use as soon as flexibility is granted:

- **Long-time M-LMS Commitment:** Progeny is controlled by Nick Frenzel who has worked toward development of services in band for 20 years.
- **Continued Investment:** Agreement with Telcom Ventures for cooperation in developing security-oriented EPL and wireless broadband data systems, as well as investment of development capital. Also agreement with Columbia Capital for development capital, broader access to capital markets.
- **Research Plans:** Working with Purdue University researchers.
- **Buildout Relief:** Wireless Bureau granted additional three years for Progeny to build out its M-LMS licenses (July 19, 2008).

Bottom Line: Progeny is putting building blocks in place to deploy applications that are true to the spectrum's location information roots (EPL) and that advance important policy goals (sharing, wireless broadband, public safety capacity.)

Critical next step: Certainty from the Commission on when and how updated rule changes will allow these advanced applications to occur.



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Business Wire - Press Release

Progeny LMS Taps Purdue University For Wireless Telecommunications Study

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Indiana-based Progeny LMS, LLC, the largest holder of wireless spectrum in the M-LMS band, announced that it has commissioned Purdue University to study its proposed use of spectrum it owns for public safety applications. Progeny holds spectrum in the multilateration Location and Monitoring Service (M-LMS) band at 902-928 MHz, with 8 MHz of bandwidth in economic areas covering a population of 235 million people.

The year-long project will study the uses of the M-LMS band spectrum, including the best ways to deploy wireless service targeted at public safety applications in areas where GPS coverage is limited or signals do not reach, such as indoors. With FCC approval, Progeny also hopes to use the same bandwidth to offer wireless broadband in rural areas using the same system.

Leading the study are Professors J.V. Krogmeier and D.J. Love from Purdue's Center for Wireless Systems and Applications in the School of Electrical and Computer Engineering. Professor Krogmeier is Associate Professor of Electrical and Computer Engineering and Co-director of the Center for Wireless Systems and Applications. Dr. Love is assistant professor in the School of Electrical and Computer Engineering.

"We are excited to be working with Purdue University, one of the nation's finest engineering schools, to study how to advance homeland security

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applications that require location capabilities," said Michael McMains, a principal with McMains LaPointe and president of Progeny. "The homeland security and broadband applications possible in the M-LMS spectrum would have an important impact in the United States. In Indiana, these investments are an important part of the state's continued innovation and growth in the area of information technology."

Progeny is a privately-held company controlled by Otto "Nick" Frenzel, III, who is a former chairman of the board of Merchants National Corporation and the National City Bank of Indiana. Mr. Frenzel is a director of Indianapolis-based property and casualty insurance company Baldwin & Lyons, and is chairman of its Audit Committee. Mr. Frenzel, through Progeny and investments in predecessor ventures, has worked toward the development of services in this band for nearly 20 years.

1 of 1

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